



High Level Waste System Integrated Project Team

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High Level Waste Corporate Board
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Introduction

- Challenges and Priorities
- High Level Waste Strategic Initiative Results
- High Level Waste System Integrated Project Team Plans



EM *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

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Significant Tank Waste Cleanup Challenges Lie Ahead



Retrieving **88 million** gallons of liquid radioactive waste



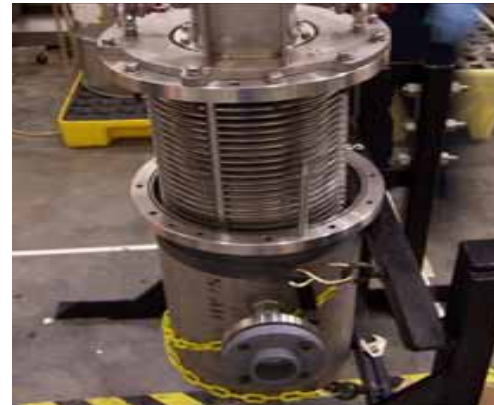
Safely storing it in **230** underground tanks



Solidifying it for safe disposal



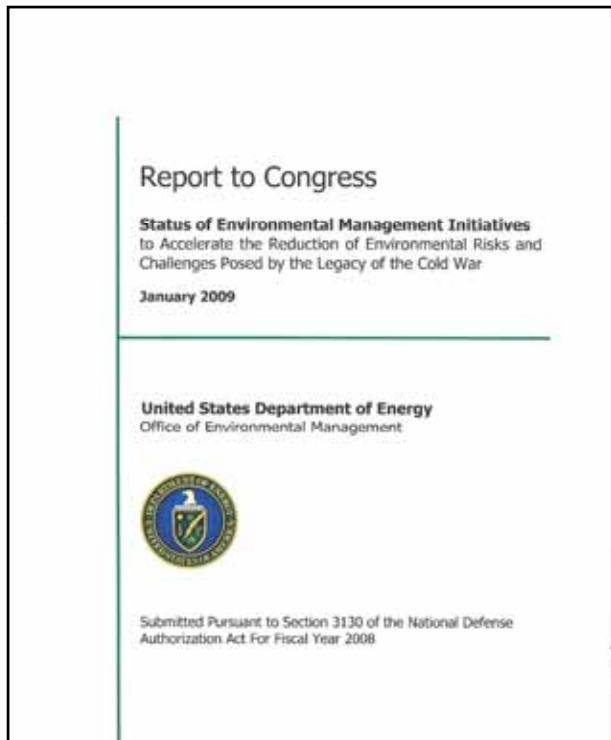
Maintaining a stable and skilled workforce



Developing and deploying new technologies



Report to Congress – Status of EM Initiatives to Reduce Risk



- Tank waste is most significant ES&H threat in DOE
- Tank Waste is Largest Cost Element in EM Budget
- Strategy, Progress, and Challenges for HLW and Engineering and Technology Identified



Current HLW Strategy

- Retrieve tank waste to maximum extent possible
- Treat the waste onsite
- Close waste tanks according to compliance agreements
- Conduct engineering and applied research to resolve unique cleanup challenges
- Dispose treated low-activity waste onsite
- Dispose high level waste in offsite repository



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Science and Discovery: A DOE Priority

- *Invest in Science to Achieve Transformational Discoveries*
- Search for solutions that will have significant impact
- Take risks for breakthrough results
- Determine when innovative technology will be demonstrated and deployed
- Coordinate work across DOE, across the government, and globally

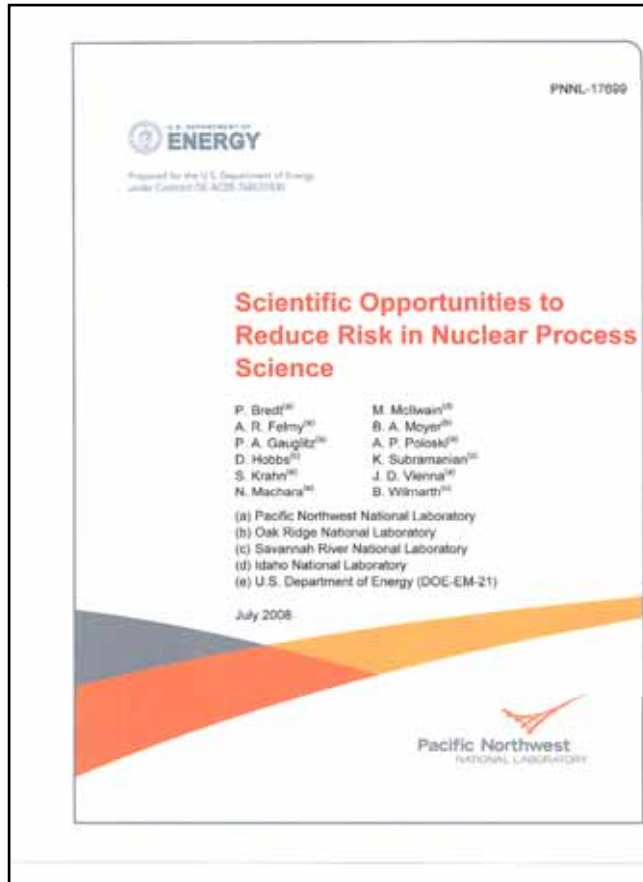


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Scientific Opportunities to Reduce Risk



- Fundamental Science Enables Transformational Solutions
- Long-Term Investments Needed
- Linked to Engineering and Technology Roadmap Strategic Initiatives



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High Level Waste Strategic Planning Initiative

- Goal - Develop new approaches for completing the High Level Waste Mission
- Focus
 - High Level Waste Program Building Blocks
 - Progress during the next Four to Eight years
 - Life-Cycle Cost Savings
- Product – Analysis of Options for High Level Waste Program and Recommended Approach



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High Level Waste Program Building Blocks

- Minimum Safe Operations
- Construction of Major Waste Processing Facilities
- Retrieval
- Processing
- Closure
- Policy

ANALYSIS

- Built 20 Cases
- Utilized Decision Analysis Tool
- Developed Cost Estimates



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Results – A New Approach for HLW Program

Pursue these HLW System Attributes that are not in the Current Baseline:

- Optimized Processing
 - Waste loading & melt rate improvements possible
 - Improved/additional separations
- Risk-Informed Retrieval
 - Bulk retrieval eliminates most risk (80-90% waste)
 - Minimal additional risk reduction for 99% retrieval
- Risk-Informed Area Closure
 - Retrieval by tank farm reduces surveillance & maintenance
 - Can reduce footprint
- Optimized Strategy Needed – Attributes not Independent
- Life-Cycle Cost Savings of \$4-8 Billion



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HLW System Integrated Project Team Scope

- Develop HLW System Strategic Model
- Develop Optimized HLW System Strategy using model to analyze new approach
- Identify Transformational Research and Technology
- Develop Cost Estimates with Goal to save more than \$1 Billion in Life-Cycle Costs



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HLW System IPT Structure

- IPT Leads – Steve Schneider & Jay Rhoderick
- Team Members from DOE, National Labs, Academia, Contractors
 - Will Meet with Stakeholders
- Subteams
 - Model Development and Integration
 - Optimized Strategy
 - Regulatory and Stakeholder
 - Cost Estimating



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HLW System IPT Key Activities

- Model Development and Integration
 - Develop HLW System Strategic Model
 - Test Model using Optimized Site Strategies
 - Integrate Strategies, as needed
 - Identify R&D Needed for Successful Strategies
 - Identify Transformational Technologies
- Optimized Strategy
 - Document Current HLW Strategy
 - Develop Hanford Optimized Strategy
 - Develop Savannah River Optimized Strategy
 - Prepare Technical Justification for Strategies
 - Provide input to Model Development



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HLW IPT Key Activities - continued

- Regulatory and Stakeholder
 - List Current Compliance Commitments
 - Prepare Win-Win Regulatory Strategy
 - Prepare Communication Plan
 - Meet with Stakeholders
- Cost Estimating
 - Develop Cost Estimates
- Develop IPT Report



Next Steps for HLW System IPT

- Issue EM-1 Memo and Charter for IPT
- Finalize Team Membership
- Complete IPT Scope of Work
 - Working Model and Feasibility Report by 9/30/09
 - Final Model and Final Report by 12/31/09

